UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,765	03/22/2004	Judson R. Sharples	500441.04	2414

7590 10/08/2004

Mark W. Roberts, Ph.D.
DORSEY & WHITNEY LLP
Suite 3400
1420 Fifth Avenue
Seattle, WA 98101

EXAMINER	
OJINI, EZIAMARA ANTHONY	
ART UNIT	**PAPER NUMBER**
3723	

DATE MAILED: 10/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,765	SHARPLES ET AL.	
	Examiner	Art Unit	
	Anthony Ojini	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-33 and 61-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-33 and 61-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's cancellation of claims 1-17 and 34-60 in Preliminary amendment filed **03/22/04** is acknowledged.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer **cannot** overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 61-77 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 26-42 of prior U.S. Patent No. 6,716,089 B2. This is a double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 18-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,716,089 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because **with respect to claim 18**, U.S. Patent No. 6,716,089 B2. disclose a method for planarizing a microelectronic substrate with a planarizing machine having a planarizing medium that includes a non-abrasive polishing pad and an abrasive slurry, the method comprising moving one of a polishing pad and the microelectronic substrate relative to the other to remove material from the microelectronic substrate; and maintaining a pH of the substrate at an approximately constant level by maintaining a pH of the abrasive slurry at an approximately constant level while reducing a relative velocity between the microelectronic substrate and the polishing pad to approximately zero (see claims 1 and 8).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 18,19, 21,23 and 24 are rejected under 35 U.S.C. 102 (e) as being anticipated by Bawa et al. (6,028,006).

With respect to claims 18,19,21,23,24, Bawa et al. disclose a method for planarizing a microelectronic substrate by moving one of a polishing pad and the microelectronic substrate relative to the other to remove material from the microelectronic substrate; and maintaining a pH of the substrate at an approximately constant level by maintaining a pH of the abrasive slurry at an approximately constant level while reducing a relative velocity between the microelectronic substrate and the polishing pad to approximately zero (i.e. when the substrate is removed from the surface of the polishing pad and the and the pad is stopped).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20, 22 and 25 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bawa et al. (6,028,006).

With respect to claim 20,22,25, Bawa et al. is explained in the rejection above. Bawa et al. also disclose step of depositing the abrasive slurry downwardly onto the planarizing surface of the polishing pad.

Bawa et al. fail to disclose the step of passing the abrasive slurry upwardly through openings in the planarizing surface of the polishing pad, including ammonia in the abrasive slurry, and reducing the relative velocity over a period of time in the range of twenty to forty second.

It would have been obvious matters of choice to one having ordinary skill in the art at the time the invention was made to perform the method of Bawa et al. with step of applying the abrasive slurry to the planarizing surface of the polishing pad, and the use of ammonia in the abrasive slurry, since the examiner takes official Notice that it is well-known in the art to apply abrasive slurry upwardly through openings in the planarizing surface of a polishing pad, and to include ammonia in an abrasive slurry used to polish a microelectronic substrate.

Claims 26 and 27 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bawa et al. in view of Robinson (5,879,226).

With respect to claims 26,27, Bawa et al. is explained above.

Bawa et al. fail to disclose step of removing polishing pad material from the polishing pad by contacting the polishing pad with a conditioning liquid having a pH equal to a pH of the abrasive slurry and having a chemical composition which is different than a chemical composition of the planarizing liquid, passing the conditioning liquid upwardly through openings in the planarizing surface of the polishing pad, nor the exact composition of the conditioning liquid.

Robinson discloses a step of removing polishing pad material from the polishing pad by contacting the polishing pad with a conditioning liquid, which contains tetramethyl ammonium hydroxide and deionized water.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to perform the method of Bawa et al. by removing polishing pad material from the polishing pad by contacting the polishing pad with tetramethyl ammonium hydroxide which has a pH equal to a pH of the abrasive slurry used by Bawa et al. (approximately 11) and has a chemical composition which is different than a chemical composition of the planarizing liquid as taught by Robinson.

It would have further been obvious matters of choice to one having ordinary skill in the art at the time the invention was made to perform the method of Bawa et al. with step of applying a conditioning liquid to the planarizing surface of the polishing pad made since the examiner takes Official Notice that it is well-known in the art to apply processing fluids upwardly through openings in the planarizing surface of a polishing pad.

It would have further been obvious matters of choice to one having ordinary skill in the art at the time the invention was made to perform the method of Bawa et al. with exact composition of the conditioning liquid, since clearly the composition should be such that the pH thereof is approximately equal to that of the planarizing liquid.

Claims 28-33 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bawa et al. in view of Brunelli et al. (6,054,015)

With respect to claim 28-33, Bawa et al. is explained above.

Bawa et al. fail to disclose step of rinsing the microelectric substrate at a rinsing location with a rinsing liquid having a pH equal to a pH of the abrasive slurry nor

passing the rinsing liquid upwardly through openings in the planarizing surface of the polishing pad.

Brunelli et al. teach rinsing a microelectric substrate at a rinsing location with a rinsing liquid, which is tetramethyl ammonium hydroxide.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to perform the method disclosed by Bawa et al. by rinsing the microelectric substrate at a rinsing location with a rinsing liquid which is tetramethyl ammonium hydroxide as taught by Brunelli et al.

It would have further been obvious matters of choice to one having ordinary skill in the art at the time the invention was made to perform the method of Bawa et al. with step of using a rinsing fluid, which has a pH approximately equal to the planarizing liquid to prevent damage to the substrate.

The amount of rinsing time and the exact composition of the rinsing liquid would have been obvious matters of choice and structural design to one having ordinary skill in the art at the time the invention was made since the amount of rinse would depend upon how foreign matter needed to be removed, and the composition would depend upon the desired pH which should be approximately equal to that of the planarizing liquid. Exactly how the rinsing liquid is applied to the planarizing surface of the polishing pad, would have been an obvious matter of choice to one having ordinary skill in the art at the time the invention was made since the examiner takes official Notice that it is well-known in the art to apply processing fluids upwardly through openings in the planarizing surface of a polishing pad.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7 to 4 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AO
10/7/04